

Shoichi KAWANO\*: **Brief notes on the chromosomes of  
some Japanese plants (2)**

河野昭一\*: 日本植物の染色体短報 (2)

This is the second report of this series. The following seven plants from Hokkaido, Japan, were cytologically studied (Tab. 1). All the materials which were used in this cytological study were germinated in the greenhouse from seeds. Navashin's solution was used for the fixation of the root tips. Paraffin sections were cut at 14 micron, and Newton's crystal violet method was used for staining. All the figures were drawn with the aid of a camera lucida.

**Observations**

A. *Potentilla Dickinsii* Franch. et Savat. (Fig. 1-A).

The basic number of the genus *Potentilla* is known to be  $x=7$  (cf. Löve & Löve, 1961). Material of *P. Dickinsii* which was collected from Mt. Tsurugi, Prov. Tokachi, Hokkaido, found to have the diploid chromosome number,  $2n=14$ .

B & C. *Aruncus dioicus* (Walt.) Fern. s. lat. (Fig. 1-B & C).

The taxonomy of *Aruncus dioicus* (Walt.) Fern. s. lat. was discussed in detail by Hara (1955). According to him, our plants in the lowlands of Hokkaido are mostly referred to var. *kamtschaticus*.

*A. dioicus* var. *subrotundatus* on Mt. Apoi and adjacent areas has rounded and coarse leaflets. This is a stable character which even in young plants is readily distinguishable from the typical plant *A. dioicus* var. *kamtschaticus*.

The typical *A. dioicus* var. *kamtschaticus* from Sokuryoyama, Muroran-City, Prov. Iburi, and var. *subrotundatus* from Mt. Apoi, Prov. Hidaka, proved to be diploid,  $2n=18$ . From European material named *Aruncus vulgaris*, two different chromosome numbers have been reported, i. e.,  $2n=14$  and 18 (cf. Löve & Löve, p. 200, 1961).

D. *Aquilegia flabellata* var. *pumila* (Huth) Kudo (Fig. 1-D).

Although several authors are often using an epithet, *Aquilegia flabellata* var. *pumila* (Huth) Ohwi (in Act. Phytotax. Geobot. 3: 116, 1934), for the plant occurring in the alpine zone of Japan and its adjacent regions, *A. flabellata* var. *pumila* (Huth) Kudo (in Rep. Exp. For. Kyushu Univ. 1: 65, 1931) should be used instead of the former, since the latter name has priority.

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Tab. 1. A list of the plants studied in the present investigation.

Species	Source of material	Present report (2n)	Previous report (2n)
A. <i>Potentilla Dickinsii</i> Fr. & Sav.	Mt. Tsurugi, Prov. Tokachi	14	—
B. <i>Aruncus dioicus</i> (Walt.) Fern. v. <i>subrotundatus</i> (Tatew.) Hara	Mt. Apoi, Prov. Hidaka	18	—
C. <i>Aruncus dioicus</i> (Walt.) Fern. v. <i>kamtschaticus</i> Hara	Sokuryo-yama, Prov. Iburi	18	14, 18 (cf. Löve & Löve, 1961)
D. <i>Aquilegia flabellata</i> Sieb. & Zucc. v. <i>pumila</i> (Huth) Kudo	the Central Plateau, Prov. Ishikari	14	14 (Sakai, 1934)
E. <i>Papaver Fauriei</i> Fedde	Mt. Rishiri, Prov. Kitami	16	—
F. <i>Poa Fauriei</i> Hack.	Shakotan, Prov. Shiribeshi	28	—
G. <i>Dianthus superbus</i> L.	Kitahama, Prov. Kitami	30	30, 60 (cf. Löve & Löve, 1961)

This dwarfed alpine race is known to be diploid with 14 chromosomes (Sakai, 1934), and the present author counted the same chromosome number in material from the Central Plateau, Hokkaido.

E. *Papaver Fauriei* Fedde (Fig. 1-E).

*Papaver Fauriei* Fedde, an endemic poppy on Mt. Rishiri, Isl. Rishiri, apparently belongs to the *Nudicaule* group of the *Scapiflora* section. The basic number of this group is known to be  $x=7$  (cf. Löve & Löve, 1961). However, the author counted a chromosome number of  $2n=16$  in a single plant which germinated in the greenhouse from Mt. Rishiri. Further confirmation is needed.

F. *Poa Fauriei* Hackel (Fig. 1-F).

The chromosome number of *Poa Fauriei* from Shakotan, Hokkaido, proved to be  $2n=28$  in the present study.

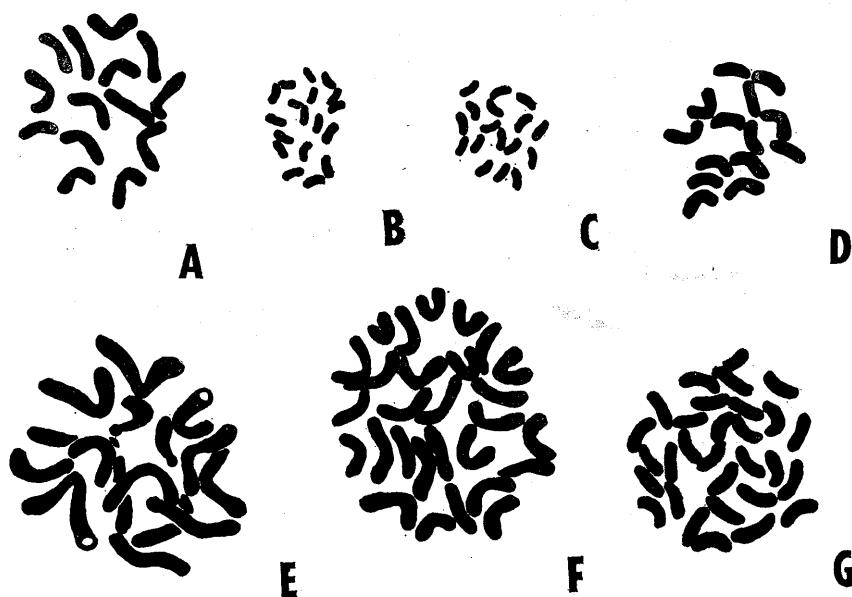


Fig. 1. Somatic chromosomes of several Japanese plants. ( $\times 2000$ ). A. *Potentilla Dickinsonii* ( $2n=14$ ) from Mt. Tsurugi, Tokachi. B. *Aruncus dioicus* var. *subrotundatus* ( $2n=18$ ) from Mt. Apoi, Hidaka. C. *Aruncus dioicus* var. *kamtschaticus* ( $2n=18$ ) from Sokuryo-yama, Iburi. D. *Aquilegia flabellata* var. *pumila* ( $2n=14$ ) from the Central Plateau, Ishikari. E. *Papaver Fauriei* ( $2n=16$ ) from Mt. Rishiri, Isl. Rishiri, Kitami. F. *Poa Fauriei* ( $2n=28$ ) from Shakotan, Shiribeshi. G. *Dianthus superbus* ( $2n=30$ ) from Kitahama, Kitami. All localities are in Hokkaido.

*G. Dianthus superbis* L. (Fig. 1-G).

Both diploid ( $2n=30$ ) and tetraploid ( $2n=60$ ) numbers are known in *D. superbis* s. lat. (cf. Löve & Löve, 1961). But, according to Löve & Löve (1961), *D. superbis* s. str. has the diploid chromosome number, i. e.,  $2n=30$ .

Sakai (1935) reported the diploid,  $2n=30$ , for the plant named *D. superbis* var. *speciosus* from Hokkaido, but which may strictly be called var. *monticola* (cf. Hara, p. 41, 1952). The present author counted also a chromosome number of  $2n=30$  on plants from Kitahama, Hokkaido, which are referred to *D. superbis* var. *superbis*.

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本報では北海道産の 6 種 1 変種の染色体について報じた。その結果は表 1 にまとめてある。イワキンバイは  $2n=14$ , アポイヤマブキシウマとエゾヤマブキシウマは共に  $2n=18$ , ミヤマオダマキは  $2n=14$ , リシリヒナゲシは  $2n=16$ , アイヌソモソモは  $2n=28$ , エゾナデシコは  $2n=30$  であった。